REMARKS

In response to the Office Action dated November 1, 2004, claims 1, 6, 7, 9, 10, 14-26 and 28 have been amended and claim 8 has been canceled. Therefore, claims 1-7 and 9-28 are now in the case. In light of the amendments and arguments set forth herein, reexamination and reconsideration of the application are requested.

Claim Objections

The Office Action objected to claim 6 because the verb "obtain" in line 29 should be past tense, or "obtained." In response, the Applicants have amended claim 6 as requested such that the verb "obtain" has been replaced by the verb "obtained."

The Office Action objected to claim 10 because the word "computer" in line 9, page 15 was assumed to be "compute." In response, the Applicants have amended claim 10 as suggested such that the word "computer" now reads "compute."

The Office Action objected to claim 21 because the word "20" in line 18, page 15 had two commas after it. In response, the Applicants have amended claim 21 to correct this anomaly such that the extra comma has been deleted.

The Office Action objected to claim 25 because at line 5, page 17, the claim refers to itself as the dependent claim. In response, the Applicants have amended claim 25 to depend from claim 24, as originally intended.

Section 112, Second Paragraph Rejections

The Office Action rejected claims 1-21 and 26-28 under 35 U.S.C. C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that that the Applicants regard as their invention. In particular, the Office Action stated that the term "high density" in claims 1 and 14-16 is a relative term that renders the claims indefinite. The Office Action further stated that the term "high density" is not defined by the claim, and that the specification does not provide a

standard for ascertaining the requisite degree, and that one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In response, the Applicants respectfully disagree with this rejection. In particular, the Applicants' specification defines "high-density" as "large volumes of votes within a short period of time (i.e., high-density voting). For example, this system typically can handle only about six votes per second, mainly because the database connections must be opened and closed each time a vote is submitted" (specification, page 2, lines 23-27).

However, in an effort to expedite and further the prosecution of this application, the Applicants have amended claims 1, 7 and 14-26 to remove the phrase "high-density." Therefore, the Applicants submit that the rejection of claims 1-21 and 26-28 under 35 U.S.C. C. § 112, second paragraph, as being indefinite, has been overcome.

Section 103(a) Rejections

The Office Action rejected claims 1-28 under 35 U.S.C. § 103(a) as being unpatentable over Bayer et al. (U.S. Patent No. 6,311,190) in view of Persistence Software's "Live Object Cache (LOC). This product, LOC, is describe in Jensen et al. (U.S. Patent No. 5,615,362) and PRNewswire "Second Patent for Company Whose Technology Speeds Access to Relational Databases by as Much as 250 Times", April 1997.

The Office Action stated that Bayer et al. disclose all elements of the Applicants' claimed invention except that Bayer et al. do "not teach high density voting over a computer network using an object residing on a server that maintains persistent connections between the object and a database; caching the votes received in a memory cache using the object; using the cached votes in calculating a result." However, the Office Action stated that the Persistence Software's LOC does teach these features. Therefore, the Office Action asserted that it would have been obvious to one of ordinary skill in the art at the time the invention was made to "modify the teachings of Bayer and

LOC, with maintaining persistent connections between the object and the database, for eh purpose of enabling high density interactive voting over a network that maintains persistent connections to a voting database."

In response, the Applicants respectfully traverse these rejections based on the claims amendments set forth herein and the following legal and technical analysis. It is the Applicants' position that the combination of Bayer et al. and the LOC (including Jensen et al.) is lacking at least one material element of the Applicants' claimed invention. In particular, the combination does not disclose, either explicitly or implicitly, the following material claimed features of: (1) tabulating in memory cached votes to generate intermediate voting results at specified intervals; (2) writing the intermediate voting results to a database to determine a final voting result; and, (3) wherein the object is a non-relational object. Further, the combination of Bayer et al. and the LOC fails to appreciate the advantages of these claimed features. Thus, the Applicants' submit that the combination of Bayer et al. and the LOC cannot make obvious these claimed features of the Applicants' invention.

To make a prima facie showing of obviousness, all of the claimed features of an Applicant's invention must be considered, especially when they are missing from the prior art. If a claimed feature is not disclosed in the prior art and has advantages not appreciated by the prior art, then no prima facie showing of obviousness has been made. The Federal Circuit Court has held that it was an error not to distinguish claims over a combination of prior art references where a material limitation in the claimed system and its purpose was not taught therein. *In re Fine,* 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Moreover, as stated in the MPEP, if a prior art reference does not <u>disclose, suggest or provide any motivation</u> for at least one claimed feature of an Applicants' invention, then a prima facie case of obviousness has not been established (MPEP § 2142).

<u>Amended Independent Claims 1, 14, 22 and 26</u>
     Amended independent claim 1 of the Applicants' claimed invention includes a

method for facilitating interactive voting over a computer network whereby voters use the computer network to transmit votes to a server in response to a survey question. The method includes receiving votes at the server in response to the survey question, providing a Live Event Object residing on the server that maintains persistent connections between the Live Event Object and a database, and caching the votes received in a memory cache using the Live Event Object. The method also includes tabulating in memory the cached votes to generate intermediate voting results at specified intervals and sending the intermediate voting results to the database, and computing a final voting result to the survey question in real-time using the cached votes.

Amended independent claim 14 of the Applicants' claimed invention includes an interactive voting system using a computer network. The system includes a server in communication with the computer network for receiving voting data from voters in response to a polling question presented to the voters. The system also includes an object residing in memory on the server for caching at least some of the voting data and tabulating the cached voting data for a predefined time interval to compute an intermediate voting result, wherein the object is a non-relational object. The system further includes a database having a connection with the object that receives and writes the cached voting data.

Amended independent claim 22 of the Applicants' claimed invention includes an interactive voting system that uses a computer network to process voting data. The system includes a Live Event Vote Server in communication with the computer network, a Live Event Object residing in memory on a Live Event Vote Server. The Live Event Object receives and caches voting data from a client in communication with the computer network, tabulates the cached voting data to generate intermediate voting results, and transfers the intermediate voting results to a Live Event Database through persistent connections between the Live Event Object and the Live Event Database such that the intermediate voting results are used to compute final voting results in real-time.

Amended independent claim 26 of the Applicants' claimed invention includes in a

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computer network having a plurality of clients and a server, a computer-implemented method for providing interactive voting over a computer network. The method includes transmitting voting data from the plurality of clients to the server, and providing an object resident in memory on the server that contains procedures and instructions for manipulating the voting data. The method also includes <u>tabulating in memory cached voting data to generate intermediate voting results at specified intervals</u>, and writing the intermediate voting results to a database. The method further includes establishing and maintaining a persistent connection between the object and the database to facilitate writing of the intermediate voting results, and using the intermediate voting results in the database to tabulate a final voting result.

The Live Event Object (LEO) caches in memory the votes received from a large number of voters (specification, page 5, line 34 to page 6, line 1). At predefined intervals, these votes are tallied in memory to generate intermediate voting results (specification, page 6, lines 1-2). The intermediate voting results then are written to the database (specification, page 12, lines 23-24). Final voting results are generated from the intermediate voting results written in the database (specification, page 6, lines 2-3). The "data aggregation" (of summing up the votes to generate intermediate voting results) is performed in memory instead of hitting the database for every vote. Thus, in order to speed up system throughput, the Applicants' claimed invention aggregates votes in memory, maintains persistent connections with the database, and writes intermediate voting results to the database. Moreover, the objects in memory are not relational objects.

In contrast, Jensen et al. merely disclose a way to speed up a relational query. In particular, the system of Jensen et al. constructs multiple in-memory relational objects and performs a relational query using these relational objects instead of going to the database. The use of multiple relational object instances to handle relational queries allows certain types of requests (or queries) to be performed in a cache rather than the database (col. 17, lines 40-45). On the other hand, the Applicants' claimed invention sums cached votes in the memory and at certain intervals send these results

to be written at the database. Jensen et al. do not disclose this feature, only the feature of resolving queries in the memory cache. Nowhere is the Applicants' claimed features of tabulating in memory cached votes to generate intermediate voting results at specified intervals, writing the intermediate voting results to a database to determine a final voting result, and having a non-relational object in memory discussed or suggested.

Bayer et al. add nothing to the cited combination that would render the Applicants' claimed invention obvious. As stated in the Office Action, Bayer et al. do not teach using an object residing on a server, caching the votes received using the object, or using the cached votes in calculating a result. In addition, the PRNewswire article also adds nothing to the cited combination that would render the Applicants' claimed invention obvious.

Consequently, no motivation or suggestion for the claimed features of the Applicants' invention is provided. Absent this teaching, motivation or suggestion, the combination of Bayer et al., Jensen et al., and the PRNewswire article cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

The combination fails to appreciate or recognize the advantages of the Applicants' claimed features of: (1) tabulating in memory cached votes to generate intermediate voting results at specified intervals; (2) writing the intermediate voting results to a database to determine a final voting result; and, (3) wherein the object is a non-relational object. More specifically, vote caching all "intermediate voting results to be tabulated continuously to generate final voting results much faster than can be obtained by tabulating each vote individually" (specification, page 6, lines 3-5). Moreover, "unlike previous interactive voting techniques that tabulate results after all the votes have been received, the present invention computes intermediate voting results at specified intervals to enable rapid and real-time tabulation of final voting results" (specification, page 6, lines 5-9). Neither Bayer et al., Jensen et al., nor the

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PRNewswire article discuss or appreciate these advantages of the Applicants' claimed features.

The Applicants, therefore, submit that obviousness cannot be established since the combination of Bayer et al., Jensen et al., and the PRNewswire article fails to teach, disclose, suggest or provide any motivation for the Applicants' claimed features of: (1) tabulating in memory cached votes to generate intermediate voting results at specified intervals; (2) writing the intermediate voting results to a database to determine a final voting result; and, (3) wherein the object is a non-relational object. In addition to explicitly lacking these features, the combination of Bayer et al., Jensen et al., and the PRNewswire article also fails to implicitly disclose, suggest, or provide motivation for these features. Further, the combination of Bayer et al., Jensen et al., and the PRNewswire article fails to appreciate advantages of these claimed features.

Therefore, as set forth in *In re Fine* and MPEP § 2142, the combination of Bayer et al., Jensen et al., and the PRNewswire article does not render the Applicants' claimed invention obvious because the references are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that amended independent claims 1, 14, 22 and 26 are patentable under 35 U.S.C. § 103(a) over Bayer et al. in view Jensen et al. and the PRNewswire article based on the amendments to claims 1, 14, 22 and 26 and the legal and technical arguments set forth above and below. Moreover, claims 2-7 and 9-13 depend from amended independent claim 1, claims 15-21depend from amended independent claim 14, claims 22-25 depend from amended independent claim 22, and claims 27 and 29 depend from amended independent claim 26 and are also nonobvious over Bayer et al. in view Jensen et al. and the PRNewswire article (MPEP § 2143.03).
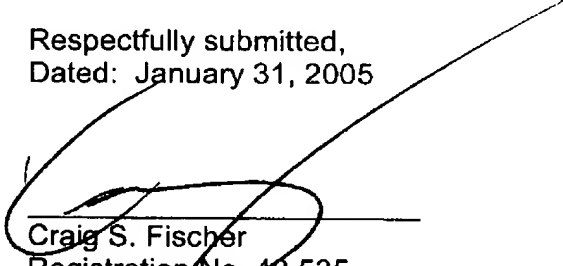
The Applicants, therefore, respectfully request reexamination, reconsideration and withdrawal of the rejection of claims 1-7 and 9-28.

Conclusion

In view of the amendments to claims 1, 6, 7, 9, 10, 14-26 and 28 and the arguments set forth above, the Applicants submit that claims 1-7 and 9-28 of the subject application are in condition for immediate allowance. The Examiner, therefore, is respectfully requested to withdraw the outstanding rejections of the claims and to pass this application to issue.

In an effort to expedite and further the prosecution of the subject application, the Applicants kindly invite the Examiner to telephone the Applicants' attorney at (805) 278-8855 if the Examiner has any comments, questions or concerns, wishes to discuss any aspect of the prosecution of this application, or desires any degree of clarification of this response.

Respectfully submitted,
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